What is claimed is:

1. A shutter disk for covering a substrate support in a physical vapor deposition chamber comprising:

a disk body defined by an outer edge, a top surface extending to the outer edge and a lower surface disposed opposite the top surface, wherein the lower surface further comprises:

a center pad extending from the lower surface;

a recess formed in the center pad coaxially with the disk body; and

a lip extending from the lower surface proximate the outer edge, the lip extending below the center pad.

2. The shutter disk of claim 1, wherein the center pad is perpendicular to a center axis of the disk body.

3. The shutter disk of claim 2, wherein the center pad has a surface finish better than about 32 RMS.

4. The shutter disk of claim 1, wherein the disk body is fabricated from stainless steel or titanium.

5. The shutter disk of claim 4, wherein the recess further comprises outward flaring sidewalls.

6. A shutter disk for covering a substrate support in a physical vapor deposition chamber comprising:

a disk body having a center axis and defined by an outer edge, a top surface extending to the outer edge and a lower surface disposed opposite the top surface, wherein the lower surface further comprises:

a center pad extending from the lower surface;

a blind hole having outwardly flaring sides formed in the center pad along the center axis of the disk body;

a lip extending from the lower surface proximate the outer edge, the lip extending below the center pad to a lip face that is parallel to the center pad; and

an annular recess formed in the lower surface between the center pad and lip.

7. A physical vapor deposition chamber comprising:

a chamber body having sidewalls and a bottom defining a process volume;

a substrate support;

a housing sealingly coupled to the chamber body;

a disk body having a center axis and defined by an outer edge, a top surface extending to the outer edge and a lower surface disposed opposite the top surface, wherein the lower surface further comprises a center pad extending from the lower surface and a lip extending from the lower surface proximate the outer edge, the lip extending below the center pad;

a robot having a blade adapted to move the disk body between the housing and chamber body; and

an alignment feature disposed between the center pad and the blade, wherein the alignment feature engages the disk body along the center axis.

8. The chamber of claim 7 further comprising:

at least a first sensor disposed adjacent to the housing and orientated to detect the presence of a portion of at least one of the disk body or blade within the housing.

9. The chamber of claim 7, wherein the center pad is perpendicular to the center axis of the disk body.

10. The chamber of claim 7, wherein the center pad has a surface finish better than about 32 RMS.

11. The chamber of claim 7, wherein the disk body is fabricated from

stainless steel or titanium.

12. The chamber of claim 7, wherein the robot blade is fabricated from titanium.

13. The chamber of claim 7, wherein the robot blade further comprises:
a raised pad having the center pad disposed thereon.

14. The chamber of claim 13, wherein the alignment feature comprises:
a post engaging the raised pad and center pad.

15. The chamber of claim 14, wherein post is coupled to the raised pad and mates with a blind hole formed in the center pad.

16. The chamber of claim 15, wherein the blind hole has a tapered sidewall.

17. The chamber of claim 7, wherein the robot blade further comprises:
a groove formed therein having a portion of the lip mated therewith, the groove configured to maintain a gap between the robot blade and lip of the disk body.

18. The processing chamber of claim 7 further comprising:
a first window formed in the housing; and
a first sensor positioned to view at least one of the disk body or robot blade through the window.

19. The processing chamber of claim 18 further comprising:
a second sensor disposed adjacent to the housing and orientated to detect the presence within the housing of the shutter mechanism.

20. The chamber of claim 19, further comprising:
a third sensor disposed adjacent to the first and second sensors, the third sensor orientated to detect the presence of the blade within the housing.

21. The processing chamber of claim 7, wherein the housing further comprises:

an emitter disposed proximate the first window; and

a receiver disposed proximate a second window disposed in the housing opposite the first window, the receiver linearly aligned with the emitter, first window and second window.

22. A physical vapor deposition chamber comprising:

a chamber body having sidewalls and a bottom defining a process volume;

a shutter disk mechanism at least partially disposed in the process volume and having a robot blade and a shutter disk engaged by an alignment feature, the alignment feature disposed along a center axis of the shutter disk;

a slot formed through one of the sidewalls; and

a housing sealingly coupled to the chamber body.

23. The chamber of claim 22, further comprising:

at least a first sensor disposed adjacent to the housing and orientated to detect the presence of a portion of the shutter disk mechanism within the housing.

24. The chamber of claim 23, wherein the center pad is perpendicular to the center axis of the disk body and parallel to the lip.

25. The chamber of claim 23, wherein the disk body and robot blade are fabricated materials having substantially similar or identical coefficients of thermal expansion.

26. The chamber of claim 23, wherein the robot blade further comprises:

a raised pad having the center pad disposed thereon.

27. The chamber of claim 26, wherein the alignment feature comprises:

a post engaging the raised pad and center pad.

28. The chamber of claim 27, wherein post is coupled to the raised pad and mates with a blind hole formed in the center pad.

29. The chamber of claim 28, wherein the blind hole has a tapered sidewall.

30. The chamber of claim 23, wherein the robot blade further comprises:

a groove formed therein having a portion of the lip mated therewith, the groove configured to maintain a gap between the robot blade and lip of the disk body.

31. A method for positioning a shutter disk within a physical vapor deposition chamber having a substrate support, comprising:

spacing a shutter disk vertically from a substrate support;

moving a robot blade between the substrate support and the shutter disk, and

engaging the shutter disk and the robot blade with an alignment feature disposed along a center axis of the shutter disk.

32. The method of claim 31 further comprising:

setting the shutter disk on a perimeter of the substrate support wherein center portions of the shutter disk and substrate support remain in a spaced-apart relation.